

# SEQUENCE LISTING

<110> Mochly-Rosen, Daria

<120> Peptides for Activation and Inhibition  
of delta-PKC

<130> 58600-8208.US00

<140> Not Yet Assigned

<141> Filed Herewith

<150> US 60/262,060

<151> 2001-01-18

<160> 72

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> epsilon V1-2, residues 14-21 of epsilon-PKC

<400> 1

Glu Ala Val Ser Leu Lys Pro Thr  
1 5

<210> 2

<211> 141

<212> PRT

<213> Rattus norvegicus

<400> 2

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| Met | Ala | Pro | Phe | Leu | Arg | Ile | Ser | Phe | Asn | Ser | Tyr | Glu | Leu | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Gln | Ala | Glu | Asp | Asp | Ala | Ser | Gln | Pro | Phe | Cys | Ala | Val | Lys | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Glu | Ala | Leu | Thr | Thr | Asp | Arg | Gly | Lys | Thr | Leu | Val | Gln | Lys | Lys |
|     |     |     | 35  |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Pro | Thr | Met | Tyr | Pro | Glu | Trp | Lys | Ser | Thr | Phe | Asp | Ala | His | Ile | Tyr |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Gly | Arg | Val | Ile | Gln | Ile | Val | Leu | Met | Arg | Ala | Ala | Glu | Asp | Pro |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Met | Ser | Glu | Val | Thr | Val | Gly | Val | Ser | Val | Leu | Ala | Glu | Arg | Cys | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Asn | Asn | Gly | Lys | Ala | Glu | Phe | Trp | Leu | Asp | Leu | Gln | Pro | Gln | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Val | Leu | Met | Cys | Val | Gln | Tyr | Phe | Leu | Glu | Asp | Gly | Asp | Cys | Lys |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gln | Ser | Met | Arg | Ser | Glu | Glu | Glu | Ala | Met | Phe | Pro | Thr |     |     |     |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |

<210> 3

<211> 124

<212> PRT

<213> Mus musculus

<400> 3

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Pro | Phe | Leu | Arg | Ile | Gly | Leu | Ser | Asn | Phe | Asp | Cys | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Gln | Ser | Cys | Gln | Gly | Glu | Ala | Val | Asn | Pro | Tyr | Cys | Ala | Val | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Lys | Glu | Tyr | Val | Glu | Ser | Glu | Asn | Gly | Gln | Met | Tyr | Ile | Gln | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Pro | Thr | Met | Tyr | Pro | Pro | Trp | Asp | Ser | Thr | Phe | Asp | Ala | His | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asn | Lys | Gly | Arg | Val | Met | Gln | Ile | Ile | Val | Lys | Gly | Lys | Asn | Val | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Leu | Ile | Ser | Glu | Thr | Val | Glu | Leu | Tyr | Ser | Leu | Ala | Glu | Arg | Cys |     |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Lys | Asn | Asn | Gly | Lys | Thr | Glu | Ile | Trp | Leu | Glu | Leu | Lys | Pro | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Arg | Met | Leu | Met | Asn | Ala | Arg | Tyr | Phe | Leu | Glu |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |     |

<210> 4  
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 <212> PRT  
 <213> Rattus norvegicus

<400> 4  
 Ser Phe Asn Ser Tyr Glu Leu Gly Ser Leu  
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<210> 5  
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 <213> Rattus norvegicus

<400> 5  
 Ala Leu Thr Thr Asp Arg Gly Lys Leu Val  
 1 5 10

<210> 6  
 <211> 8  
 <212> PRT  
 <213> Rattus norvegicus

<400> 6  
 Met Arg Ala Ala Glu Asp Pro Met  
 1 5

<210> 7  
 <211> 58  
 <212> PRT  
 <213> Rattus norvegicus

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Phe | Arg | Pro | Lys | Val | Lys | Ser | Pro | Arg | Asp | Tyr | Ser | Asn | Phe | Asp |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gln | Glu | Phe | Leu | Asn | Glu | Lys | Ala | Arg | Leu | Ser | Tyr | Ser | Asp | Lys | Asn |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Ile | Asp | Ser | Met | Asp | Gln | Ser | Ala | Phe | Ala | Gly | Phe | Ser | Phe | Val |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Asn | Pro | Lys | Phe | Glu | His | Leu | Leu | Glu | Asp |     |     |     |     |     |     |
|     |     | 50  |     |     |     | 55  |     |     |     |     |     |     |     |     |     |

<210> 8  
 <211> 17  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Drosophila Antennapedia homeodomain-derived  
 carrier peptide

<400> 8  
Cys Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys  
1 5 10 15  
Lys

<210> 9  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Tat-derived carrier peptide

<400> 9  
Tyr Gly Lys Lys Arg Arg Gln Arg Arg Arg  
1 5 10

<210> 10  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> beta-PKC-selective activator peptide

<400> 10  
Ser Val Glu Ile Trp Asp  
1 5

<210> 11  
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<212> PRT  
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<220>  
<223> modified pseudo-delta RACK peptide

<400> 11  
Met Lys Ala Ala Glu Asp Pro Met  
1 5

<210> 12  
<211> 8  
<212> PRT  
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<220>  
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<400> 12  
Met Arg Gly Ala Glu Asp Pro Met  
1 5

<210> 13  
<211> 8  
<212> PRT  
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<220>  
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<400> 13  
Met Arg Ala Gly Glu Asp Pro Met

1

5

<210> 14  
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<212> PRT  
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<400> 14  
Met Arg Ala Pro Glu Asp Pro Met  
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<210> 15  
<211> 8  
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<220>  
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<400> 15  
Met Arg Ala Asn Glu Asp Pro Met  
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<210> 16  
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<400> 16  
Met Arg Ala Ala Asp Asp Pro Met  
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<210> 17  
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<212> PRT  
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<220>  
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<400> 17  
Met Arg Ala Ala Glu Asp Pro Val  
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<210> 18  
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<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 18  
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1 5

<210> 19  
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<400> 19

Met Arg Ala Ala Glu Asp Pro Leu  
1 5

<210> 20

<211> 4

<212> PRT

<213> Rattus norvegicus

<400> 20

Glu Asp Pro Met  
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<210> 21

<211> 5

<212> PRT

<213> Rattus norvegicus

<400> 21

Ala Glu Asp Pro Met  
1 5

<210> 22

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> modified pseudo-delta RACK peptide

<400> 22

Met Arg Ala Ala Glu Asp Met Pro  
1 5

<210> 23

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> modified pseudo-delta RACK peptide

<400> 23

Met Glu Ala Ala Glu Asp Pro Met  
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<210> 24

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> modified pseudo-delta RACK peptide

<400> 24

Met Asp Ala Ala Glu Asp Pro Met  
1 5

<210> 25

<211> 8

<212> PRT  
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 <400> 26  
 Met Arg Ala Ala Glu Asp Pro Leu  
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 Met Arg Ala Ala Glu Glu Pro Ile  
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 <210> 28  
 <211> 8  
 <212> PRT  
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 <400> 28  
 Met Arg Ala Ala Glu Glu Pro Val  
 1 5  
  
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 <400> 29  
 Met Arg Ala Ala Glu Asp Pro Val  
 1 5  
  
 <210> 30  
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 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
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<400> 30
Met Arg Ala Ala Asn Asp Pro Met
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<210> 31
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<212> PRT
<213> Artificial Sequence

<220>
<223> modified pseudo-delta RACK peptide

<400> 31
Met Arg Ala Ala Gln Asp Pro Met
 1             5

<210> 32
<211> 8
<212> PRT
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<220>
<223> modified pseudo-delta RACK peptide

<400> 32
Met Arg Ala Ala Glu Gln Pro Met
 1             5

<210> 33
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> modified pseudo-delta RACK peptide

<400> 33
Met Arg Ala Ala Glu Asn Pro Met
 1             5

<210> 34
<211> 10
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<220>
<223> modified delta V1-1 peptide

<400> 34
Thr Phe Asn Ser Tyr Glu Leu Gly Ser Leu
 1             5             10

<210> 35
<211> 10
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<213> Artificial Sequence

<220>
<223> modified delta V1-1 peptide

<400> 35
Ala Phe Asn Ser Tyr Glu Leu Gly Ser Leu
 1             5             10

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<210> 36  
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 <223> modified delta V1-1 peptide  
  
 <400> 36  
 Ser Phe Asn Ser Tyr Glu Leu Gly Thr Leu  
 1 5 10  
  
 <210> 37  
 <211> 10  
 <212> PRT  
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 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 37  
 Thr Phe Asn Ser Tyr Glu Leu Gly Thr Leu  
 1 5 10  
  
 <210> 38  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 38  
 Ser Tyr Asn Ser Tyr Glu Leu Gly Ser Leu  
 1 5 10  
  
 <210> 39  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 39  
 Ser Phe Asn Ser Phe Glu Leu Gly Ser Leu  
 1 5 10  
  
 <210> 40  
 <211> 9  
 <212> PRT  
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 <220>  
 <223> modified delta V1-1 peptide  
  
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 Ser Asn Ser Tyr Asp Leu Gly Ser Leu  
 1 5  
  
 <210> 41  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence



<220>  
 <223> modified delta V1-1 peptide  
  
 <400> 41  
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 1 5 10  
  
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 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 42  
 Ser Phe Asn Ser Tyr Glu Ile Gly Ser Val  
 1 5 10  
  
 <210> 43  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 43  
 Ser Phe Asn Ser Tyr Glu Val Gly Ser Ile  
 1 5 10  
  
 <210> 44  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> modified delta V1-1 peptide  
  
 <400> 44  
 Ser Phe Asn Ser Tyr Glu Leu Gly Ser Val  
 1 5 10  
  
 <210> 45  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <400> 45  
 Ser Phe Asn Ser Tyr Glu Leu Gly Ser Ile  
 1 5 10  
  
 <210> 46  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence  
  
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 <223> modified delta V1-1 peptide  
  
 <400> 46  
 Ser Phe Asn Ser Tyr Glu Ile Gly Ser Leu

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| 1 | 5 | 10 |
|---|---|----|

<210> 47  
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 <212> PRT  
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<220>  
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 Ser Phe Asn Ser Tyr Glu Val Gly Ser Leu  
 1 5 10

<210> 48  
 <211> 10  
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 <213> Artificial Sequence

<220>  
 <223> modified delta V1-1 peptide

<400> 48  
 Ala Phe Asn Ser Tyr Glu Leu Gly Ser Leu  
 1 5 10

<210> 49  
 <211> 6  
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 <213> Rattus norvegicus

<400> 49  
 Tyr Glu Leu Gly Ser Leu  
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<210> 50  
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 <212> PRT  
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<220>  
 <223> modified fragment of delta V1-1 peptide

<400> 50  
 Tyr Asp Leu Gly Ser Leu  
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<210> 51  
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 <213> Artificial Sequence

<220>  
 <223> modified fragment of delta V1-1 peptide

<400> 51  
 Phe Asp Leu Gly Ser Leu  
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<210> 52  
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<223> modified fragment of delta V1-1 peptide

<400> 52

Tyr Asp Ile Gly Ser Leu  
1 5

<210> 53

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> modified fragment of delta V1-1 peptide

<400> 53

Tyr Asp Val Gly Ser Leu  
1 5

<210> 54

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> modified fragment of delta V1-1 peptide

<400> 54

Tyr Asp Leu Pro Ser Leu  
1 5

<210> 55

<211> 6

<212> PRT

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<220>

<223> modified fragment of delta V1-1 peptide

<400> 55

Tyr Asp Leu Gly Leu Leu  
1 5

<210> 56

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> modified fragment of delta V1-1 peptide

<400> 56

Tyr Asp Leu Gly Ser Ile  
1 5

<210> 57

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> modified fragment of delta V1-1 peptide

<400> 57

Tyr Asp Leu Gly Ser Val  
1 5

<210> 58  
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<400> 58  
Leu Gly Ser Leu  
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<210> 59  
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<220>  
<223> modified fragment of delta V1-1 peptide

<400> 59  
Ile Gly Ser Leu  
1

<210> 60  
<211> 4  
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<220>  
<223> modified fragment of delta V1-1 peptide

<400> 60  
Val Gly Ser Leu  
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<210> 61  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 61  
Leu Pro Ser Leu  
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<210> 62  
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<220>  
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<400> 62  
Leu Gly Leu Leu  
1

<210> 63  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> modified fragment of delta V1-1 peptide

<400> 63  
 Leu Gly Ser Ile  
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<210> 64  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified fragment of delta V1-1 peptide

<400> 64  
 Leu Gly Ser Val  
 1

<210> 65  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 65  
 Ala Leu Ser Thr Asp Arg Gly Lys Thr Leu Val  
 1 5 10

<210> 66  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 66  
 Ala Leu Thr Ser Asp Arg Gly Lys Thr Leu Val  
 1 5 10

<210> 67  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 67  
 Ala Leu Thr Thr Asp Arg Gly Lys Ser Leu Val  
 1 5 10

<210> 68  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 68  
 Ala Leu Thr Thr Asp Arg Pro Lys Thr Leu Val  
 1 5 10

<210> 69  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 69  
 Ala Leu Thr Thr Asp Arg Gly Arg Thr Leu Val  
 1 5 10

<210> 70  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 70  
 Ala Leu Thr Thr Asp Lys Gly Lys Thr Leu Val  
 1 5 10

<210> 71  
 <211> 11  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> modified delta V1-2 peptide

<400> 71  
 Ala Leu Thr Thr Asp Lys Gly Lys Thr Leu Val  
 1 5 10

<210> 72  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 72  
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 Glu Arg Ala Asp Ala Glu Thr Leu Arg Lys Ala Met Lys Gly Leu Gly  
 20 25 30  
 Thr Asp Glu Glu Ser Ile Leu Thr Leu Leu Thr Ser Arg Ser Asn Ala  
 35 40 45  
 Gln Arg Gln Glu Ile Ser Ala Ala Phe Lys Thr Leu Phe Gly Arg Asp  
 50 55 60  
 Leu Leu Asp Asp Leu Lys Ser Glu Leu Thr Gly Lys Phe Glu Lys Leu  
 65 70 75 80  
 Ile Val Ala Leu Met Lys Pro Ser Arg Leu Tyr Asp Ala Tyr Glu Leu  
 85 90 95  
 Lys His Ala Leu Lys Gly Ala Gly Thr Asn Glu Lys Val Leu Thr Glu  
 100 105 110  
 Ile Ile Ala Ser Arg Thr Pro Glu Glu Leu Arg Ala Ile Lys Gln Val  
 115 120 125  
 Tyr Glu Glu Glu Tyr Gly Ser Ser Leu Glu Asp Asp Val Val Gly Asp  
 130 135 140  
 Thr Ser Gly Tyr Tyr Gln Arg Met Leu Val Val Leu Leu Gln Ala Asn  
 145 150 155 160  
 Arg Asp Pro Asp Ala Gly Ile Asp Glu Ala Gln Val Glu Gln Asp Ala  
 165 170 175  
 Gln Ala Leu Phe Gln Ala Gly Glu Leu Lys Trp Gly Thr Asp Glu Glu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
| Lys | Phe | Ile | Thr | Ile | Phe | Gly | Thr | Arg | Ser | Val | Ser | His | Leu | Arg | Lys |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Val | Phe | Asp | Lys | Tyr | Met | Thr | Ile | Ser | Gly | Phe | Gln | Ile | Glu | Glu | Thr |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Ile | Asp | Arg | Glu | Thr | Ser | Gly | Asn | Leu | Glu | Gln | Leu | Leu | Leu | Ala | Val |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |
| Val | Lys | Ser | Ile | Arg | Ser | Ile | Pro | Ala | Tyr | Leu | Ala | Glu | Thr | Leu | Tyr |  |  |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
| Tyr | Ala | Met | Lys | Gly | Ala | Gly | Thr | Asp | Asp | His | Thr | Leu | Ile | Arg | Val |  |  |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |  |  |
| Met | Val | Ser | Arg | Ser | Glu | Ile | Asp | Leu | Phe | Asn | Ile | Arg | Lys | Glu | Phe |  |  |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |  |  |
| Arg | Lys | Asn | Phe | Ala | Thr | Ser | Leu | Tyr | Ser | Met | Ile | Lys | Gly | Asp | Thr |  |  |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |  |  |
| Ser | Gly | Asp | Tyr | Lys | Lys | Ala | Leu | Leu | Leu | Leu | Cys | Gly | Glu | Asp | Asp |  |  |
| 305 |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |  |  |